

Training the Disadvantaged As Home Health Aides

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BY 1975, about 45 percent more manpower will be needed in all health occupations (1). Employment of indigenous workers and the poor in delivering health services is one approach to fulfilling this need. The recent policy statement on health and poverty by the American Public Health Association Committee on Public Policy has recommended action in this direction (2).

The Alameda County Health Department, Oakland, Calif., has demonstrated how persons from poverty areas can be effectively trained and employed in a health program (3). With a 1-year grant from the Federal Office of Economic Opportunity, the department conducted a home health aide pilot training project to test how effectively older unemployed men and women in poverty areas could be recruited and trained to provide nursing care for ill people in their homes.

The staff recruited persons from the most disadvantaged sections of the community and, contrary to many training programs, did not "cream off" the most experienced and most able persons for the project but placed highest priority on selecting persons with the least income and education and those without jobs or on welfare.

From Principles to Practice

The principles and techniques of programmed learning have significant value for training health workers (4). Much has been said and written about its many applications to various

educational settings (5), but its basic elements do not differ significantly from sound educational philosophy. Various definitions for programmed instruction or learning exist, but there is common agreement about using the six basic premises that we followed in our project.

1. Determining characteristics of trainees. The first principle of a training program is gearing it to the educational level of the trainees. The recruitment criteria must emphasize the importance of determining educational backgrounds and other characteristics of the adults in order to plan a training program to meet their special requirements.

The classes were held in 1968 in the Alameda County Health Department. Originally, 100 adults were selected for training. Eight did not report for the first class, and nine were terminated at various times during the course. The remaining 83 (90 percent) consisted of 81 women and two men who either were unemployed or earned an income below the poverty level. Nearly a third were on welfare. Most were divorced, separated, or from broken homes. Many had experienced great difficulty in obtaining jobs, and their self-confidence was low.

Eighty percent of the trainees were nonwhite; most were Negroes. Ethnic groups, ages, educa-

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tional levels, and reading grade levels at the beginning of the course are presented in table 1. Most trainees were over the age of 45; the oldest was 62. The most important characteristic was the low level of education. Schooling of more than a fourth (28 percent) ended at the third through eighth grades; the remainder completed grades nine through 12. The average grade completed was 9.5.

These figures do not indicate the actual educational level of the adults. Since most of them were over 45, their schooling was in the distant past. Many had attended poor-quality schools in small towns or in rural areas of the country. Many had dropped out of school at an early age, and the great majority had no formal education beyond elementary school. As a result, their actual reading ability was considerably lower than the grade levels indicated.

Fifty-three of the 83 trainees were given the wide-range achievement test to determine their reading grade level. Thirty were exempted from testing because of education levels beyond the eighth grade. All 53 persons tested (51 women and two men, 35 to 62 years old) had reading levels below the 12th grade, and 90 percent had reading levels below the eighth grade. Although the schooling of 28 percent of the 83 ended at the third through eighth grades, the test results showed that 58 percent actually had reading grade levels in the third- to eighth-grade range.

Reading levels more accurately indicate educational ability than school grade completed. Without testing, an adequate basic education program for the group probably could not have been developed.

2. Identifying behavioral objectives. Training, to be effective, must be related to specific behavioral objectives. Unless such objectives are carefully identified, a student will not perceive clearly the desired end result and purpose of training. Neither will it be possible to plan and carry out the most effective educational experiences to accomplish the expected result.

To implement this principle, the duties of a home health aide were carefully defined in a job description which listed not only general functions and responsibilities but also specific activity items including 64 independent home

nursing tasks (for example, helping the patient move in and out of bed, giving the patient a bath in bed, cleaning and making the bed, and reporting information concerning the patient to the nurse).

A behavioral objective was written for each task (6), expressed in terms that were measurable and observable for the graduates of the program. For example, the aide is able to cleanse her hands by the proper handwashing procedure, the aide is able to demonstrate the proper way to give a urinal to a patient in bed and remove it without spilling the contents, and the aide is able to discuss with the nurse the patient's condition and any problems she is having with the patient.

The behavioral objectives served three important functions: It gave the trainees a clear statement of where they were going and helped them check their progress, it gave the instructors a concise statement of goals for teaching, and it gave the project evaluation staff behavioral criteria for measuring the extent to which the training objectives were met.

3. Breaking subject matter into small discreet steps. This phase consists of organizing the subject matter into discreet units of a size that the trainee can assimilate easily and rapidly. He should be required to focus his attention on only a limited amount of material at one time. The units then are written into a program for him.

We applied this principle in developing the aide's training. Separate lesson plans were developed around each concept or skill to be learned. The specific knowledges, skills, and attitudes that were required for each behavioral objective were identified and incorporated in each lesson plan. Each single-concept instruction unit contained basic information, a list of materials and supplies that were required, and a step-by-step procedure for carrying out each task.

4. Arranging learning in a progressive sequence. Lesson plans were arranged in simple to the more complex concepts and learning experiences and incorporated into a training manual for the trainees and the teaching staff. Classes were held 3 hours per day for 11 weeks. The course began with a series of classroom-, demonstration-, discussion-type experiences,

Table 1. Ethnic groups, ages, educational levels, and initial reading grade levels of 83 trainees

Characteristics	Number	Percent
Ethnic group.....	83	100
Negro.....	61	73
White.....	16	20
Mexican-American.....	5	6
Indian.....	1	1
Age range (years).....	83	100
25-34.....	6	7
35-44.....	3	4
45-54.....	53	64
55-62.....	21	25
Last school grade completed ¹	83	100
3-4.....	2	2
5-6.....	3	4
7-8.....	18	22
9-10.....	21	25
11-12.....	30	36
Undetermined.....	9	11
Reading grade level.....	² 53	100
3.0-3.9.....	2	4
4.0-4.9.....	9	17
5.0-5.9.....	9	17
6.0-6.9.....	16	30
7.0-7.9.....	12	22
8.0-8.9.....	2	4
9.0-9.9.....	2	4
10.0-10.9.....	0	0
11.0-11.9.....	1	2

¹ Average 9.5.

² 30 trainees were exempted from testing because of education levels beyond the eighth grade. The average initial reading grade level was 6.1, as tested individually by wide-range achievement test.

followed by a period of closely supervised training with rehabilitation patients in nursing homes. It ended with several weeks of supervised on-the-job training during which each aide gave health care to patients in their homes.

We emphasized experiential learning and practice sessions wherein the trainees could control the subject matter with which they were dealing. We created situations that they could master successfully so they could obtain wins while learning job skills. This developed the self-confidence of those persons who had considered themselves failures in earlier jobs.

Basic education (reading, writing, and mathematics) was programed into the course and taught as an integral part of nursing skills. The basic education teaching materials were specially developed at the sixth grade reading level; reading, vocabulary, and sentence struc-

ture were taught by using words, terms, and reading material about home nursing care. Mathematical concepts (decimals, fractions, and other computations) were taught by using problem situations with which the aides would be confronted on the job; for example, how to read a thermometer, how to determine and prepare a diet for a diabetic patient, how to read an odometer and figure mileage, and how to fill out records accurately.

5. *Allowing trainees to progress at own speed.* We followed this principle as closely as was possible in a group teaching situation. If only programed instruction materials are used, each trainee can proceed at his own pace, but this method is not entirely feasible when trainees are in groups or when demonstrations and other experience-type learning situations are presented. Our instructors modified the usual group-teaching setting in the following ways to incorporate this concept.

1. Classes were kept small to give trainees the opportunity to ask questions and discuss materials. One nurse instructor per 20 persons was the average faculty to trainee ratio.

2. The attention given to each trainee was increased by employing as faculty assistants on the project staff health aides who had experience in the health department. One aide was used with each class of 20 persons. They helped the trainees with demonstrations, lessons, examinations, and other problems and were able to offer them closer emotional support than other professional staff members could. They bridged the gap between the trainee and the instructor.

3. Keeping flexible training schedules allowed more time for instruction when trainees were having learning difficulties, particularly with basic education materials. Supplementary reading materials and lessons were developed for these persons.

Many teaching adjustments were necessary because of the varied backgrounds of the students. The instructors counseled and encouraged the trainees individually and told them to discuss their problems at any time.

6. *Giving immediate feedback to trainees.* This principle is important to the trainee for checking his progress. One of several methods

used for immediate feedback after teaching specific nursing skills was demonstrations. Each person was coached and corrected step by step until he could perform all procedures properly.

The instructors frequently used short quizzes in class and either discussed results immediately or returned the written papers the next day. Each lesson plan had a self-evaluation section consisting of several objective questions that were designed to help the student understand the key points of the lesson. Answers to these questions were given on the back of the lesson sheet, and the trainee could immediately compare his answers with the prepared answers.

Results of Training Program

The following three standards were used to evaluate the effectiveness of the training project.

Number of graduates. Of the 92 adults, 83 (90 percent) successfully completed the course. The nine who did not graduate were terminated at various times: Four dropped out at their own request because of nervousness and instability, one married and moved out of the area, two were terminated by mutual consent for serious personal and family problems, and two were unable to graduate because of low scholastic ability in reading and writing. The reading grade levels of these two students were 3.7 and 4.6—the lowest in the class.

Gains made by trainees. Classes in reading, word-attachment skills (syllabication and phonics), and mathematics were conducted for 1 hour of the 3-hour day, concurrently with the home health care training. Progress in each skill was documented by before and after test scores.

Initially, we wanted to use a comprehensive test that would give valid measurement of reading ability, but many trainees lacked confidence and had little or no experience in taking tests. Even the better students feared that the test results would “brand them for life.” Therefore, this type of test was not used.

The simpler wide-range arithmetic achievement test was given to 53 trainees during the first week of class and again at the end of the course; consequently, changes in the mathematics grade levels could be measured. Initial

Table 2. Initial mathematics grade level and change after basic instruction of 53 trainees, determined by wide-range arithmetic achievement test

Mathematics grade level	Number	Percent
Initial level:		
3.0-3.9-----	18	34
4.0-4.9-----	22	41
5.0-5.9-----	9	17
6.0-6.9-----	3	6
7.0-7.9-----	1	2
Change after basic instruction:		
-0.2-----	3	6
No change-----	2	4
0.0-0.9-----	6	11
1.0-1.9-----	22	41
2.0-2.9-----	13	24
3.0-3.9-----	3	6
4.0-4.9-----	3	6
5.0-5.9-----	1	2

levels ranged from 3.0 to 7.9, and 75 percent scored between the two lowest ranges of 3.0 to 3.9 and 4.0 to 4.9. The average initial level was 4.6.

Changes in the mathematics grade levels after basic instruction ranged from -0.2 to +5.9 (table 2). Apparently the initial test was not completely valid and a few negative results occurred. Several persons were frightened and obtained help from their neighbors. Certain trainees had significantly lower skills than the test results indicated.

The mathematics learning ability of 65 percent of the trainees increased from 1 to 3 grade levels after instruction; the average increase was 1.6. These changes are significant considering the nature of the group being trained and the length of time they were trained—55 hours of classroom instruction, or less than school students generally receive in a semester. Under our traditional system of elementary education, a student spends approximately three times that number of classroom hours for each grade in school. The results of our instruction demonstrated that significant learning can be achieved by adults who are highly motivated in a job training program if the training is programmed to meet the needs of the trainee and the job.

Performance on the job. The performance of 24 graduates employed immediately after graduating from the the first training class was

evaluated after they had worked 15 weeks as home health aides. A rating sheet was constructed so that each aide's nurse supervisor could rate the aide, using a 3-point scale, on 22 items of job behavior. The list corresponded to the essential activities outlined in the job description and the behavioral objectives developed for the training program.

The evaluation instrument had been tested among other aides and nurses and appeared to be very reliable. Each item was in one of three important work-skill categories: technical home care, professional behavior (work habits), and interpersonal relations. The nurse marked each item according to whether the activity was performed "most of the time," "some of time," or "seldom."

Numerical scores were assigned to the ratings; for example, one point for "seldom," two points for "some of the time," and three points for "most of the time."

Performance evaluations were determined by an aide's total score on behavioral objectives and on each of the following items:

PROFESSIONAL BEHAVIOR—EIGHT ITEMS

- Grooming: clothing neat, clean, and appropriate
- Team member: knows and assumes role of home health aide
- Personal health: is well, no physical complaints
- Dependable: reports to patients on time and on days assigned
- Absences: less than ½ to 1 day absent per month
- Learning ability: can transfer learning from one situation to another
- Confidentiality: keeps information confidential
- Recordkeeping: keeps notes and reports problems and unusual symptoms to public health nurse

ATTITUDES AND INTERPERSONAL RELATIONS—FOUR ITEMS

- Aide is friendly, warm, and pleasant
- Accepts annoyances and peculiarities of patient
- Listens in an understanding way
- Accepts and benefits from suggestions and criticism

TECHNICAL SKILLS—TEN ITEMS

- Aide uses good mechanics
- Uses proper transfer techniques
- Washes hands at appropriate times
- Gives good back care
- Cleans patient's hands and feet
- Clips fingernails and toenails
- Ambulates patient properly
- Gives a good bed bath
- Makes patient's bed neatly and properly
- Nutrition: prepares proper diet for patient

Analysis of the total scores showed that all 24 aides were performing in a satisfactory or above-satisfactory manner. Ranges of total scores follow, with number and percent in each group:

Scores ¹	Number	Percent
51-54.....	1	4
55-58.....	4	17
59-62.....	7	29
63-66.....	12	50

¹ Possible range, 22-66.

An aide could have received a score within the range of 22 to 66; all aides scored between 51 and 66. If an aide had been rated "seldom" on all items, she would have received a score of 22; if rated "some of the time," a score of 44; and if rated "most of the time," a score of 66. Fifty percent of the group scored in the top bracket and the other half in the next three highest brackets.

As a group, the aides scored highest in nursing skills. This result tended to corroborate conclusions reached by the instructors that teaching nursing techniques and the skills of caring for patients was the easiest part of the course and was accomplished satisfactorily. The group's scores on items concerning attitudes and interpersonal relations were lowest. Only six trainees received the maximum group score in this category.

On the positive side, the aides were given top ratings in friendliness, warmth, and pleasantness. On the negative side, the data show that aides were weakest in their ability to accept the annoyances and peculiarities of patients, in not listening in an understanding way, and in not accepting and benefiting from suggestions and criticism. These data are supported by the results of several group sessions during training and the instructor's final evaluation of the trainees.

One weakness of the aides was their inability to accept criticism. Often, if an instructor commented about the need for individual improvement, they interpreted the incident as a personal failure. They tended to equate constructive criticism with failure and usually insisted that they were right. In the final evaluation the instructors discussed the need for improvement, and the trainees seemed to accept the evaluation, but the performance evaluation definitely indi-

cated further need for inservice education and strengthening in communication skills and interpersonal relationships.

It is relatively easier to teach a trainee how to bathe a patient in bed than how to respond in a helpful way to an angry, critical patient. We attempted to develop more positive and helpful attitudes through group discussions, role playing, and hypothetical situations. Evaluation results indicated that much more time should have been spent on this aspect of training.

Scores on items of professional behavior ranged between the other two categories. The results generally were satisfactory although improvement was indicated. In the classroom the trainees dressed in good taste and were well groomed. We encountered no problems with confidential information. In class discussion, the aides strongly favored keeping personal information private. Many were or had been on welfare and had personally experienced the client role of revealing information to a public agency to qualify for assistance. The instructors therefore used these feelings to emphasize the importance of not discussing the patient with anyone but the nurse supervisor.

The trainees had no serious problems with absenteeism or tardiness. Many of the aides had never worked for a public agency where they were expected to arrive at work and leave on time. To help them in developing good working habits, the instructors insisted that they come to class on time and demanded an explanation for tardiness or absence. These work habits apparently were developed to a satisfactory level.

The aides showed a wide range of competence in recordkeeping. Several nurse evaluators commented that some aides had reported observations verbally but few had kept usable notes. If an aide reported her observations but did not keep notes, she was rated near the middle of the scale. The results in this category are not surprising considering the low levels of basic education. The verbal skills of most aides were better than their writing skills, which indicated the importance of having an effective continuing program of basic education.

We were not able to evaluate the performances of the remaining 59 trainees. Nothing indicates, however, that the evaluations of 24 are not rep-

resentative of the total group. The composition of all classes was generally the same, and the performance of the total group—as observed by the training staff—was about the same as that of those evaluated.

Conclusion

The results of this project indicated that adults who are recruited from ghettos and other poverty areas can be trained in a relatively short time to become effective health workers.

Despite little education, great poverty, and histories of failure, frustration, and hopelessness, the trainees as a group demonstrated a high motivation and willingness to learn. This desire, together with a training program designed to meet special needs, resulted in few dropouts, significant gains in basic education abilities, and job performances rated as satisfactory or above.

The high motivation of the group was attributed to the following basic factors: The training program was practical and support was given throughout the course, and the trainees knew that a meaningful and adequately paying job would be available to them when they had successfully completed the course.

The staff attributed the successful outcome of the program to two things: It was designed to develop specific knowledges and skills for the job, and it was programmed to meet the specific needs of the trainees.

Summary

The purpose of a project conducted during 1968 in the Alameda County Health Department, Oakland, Calif., with a 1-year grant from the Federal Office of Economic Opportunity, was to demonstrate how older unemployed men and women—most were 45 to 62 years old—in poverty areas could be trained to become effective home health aides.

An 11-week training program was designed to teach specific knowledges and skills of home nursing care. In developing the course, principles of programmed learning were followed to (a) determine the characteristics of the trainees, (b) identify behavioral objectives,

(c) break subject matter into small discreet steps, (d) arrange learning in a progressive sequence, and (e) allow trainees to progress at their own speed.

Of the 92 adults selected for the program, 83 (90 percent) successfully completed the course and were certified as home health aides. Results of the basic education instruction given to 65 percent of the trainees showed that after instruction the average increase in mathematics grade levels was 1.6. The range of increase for the trainees was from 1 to 3 grade levels.

A behavior-rating instrument, constructed to measure performance on the job, was used to evaluate the performance of 24 graduates of the program after 15 weeks of employment. Aides were rated by their nurse supervisors on 22 items in three important work-skill categories: technical home care, work habits, and interpersonal relations. The results of this evaluation showed

that all the aides were performing at satisfactory or above-satisfactory levels.

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Community Mental Health Centers Support Branch

In response to a growing program funded by the National Institute of Mental Health, a reorganization and a new post within the National Institute of Mental Health, Division of Mental Health Service Programs has been announced.

The program, Federal aid for the construction and staffing of community mental health centers, will be handled by the division's new Community Mental Health Centers Support Branch.

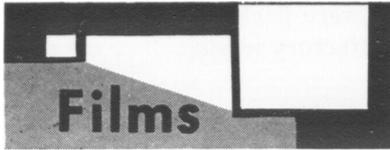
Previously two separate branches of the division administered grants to centers. Now with the program well underway—more than 350 centers have been funded in 49 States with Federal construction and staffing aid—further application and followup will be handled in one central branch.

The division also has created a new Community Mental Health Services Development Branch to help tailor the Federal program to current needs. This branch will carry out the division's responsibility for encouraging pro-

gram development in the new mental health centers. The centers, as they are established, will need help with improving their services, developing new programs, and dealing with administrative and training problems. Grants will support research and training activities to help develop effective community mental health services.

Administration of the two branches will be centralized under an Associate Director for Community Mental Health Services. Appointed to fill the new position is Dr. Saul Feldman. He is assistant to Dr. Alan I. Levenson, Director of the Division of Mental Health Service Programs.

He will be responsible for directing the review of community mental health center grants, construction and staffing; evaluating the progress of the centers' programs; recommending new directions; and consulting with community mental health officials on all aspects of their programs.



How to Complete a Certificate of Live Birth. *Filmstrip, order No. F-1593; 35-mm. slide series, order No. S-1593. With record (12 inch, 33½ rpm) or audiotape (¼ inch, 7½ ips), color, sound, 23 minutes, 1968. Cleared for educational closed-circuit television. Produced by the National Medical Audiovisual Center for the Division of Vital Statistics, National Center for Health Statistics, Public Health Service.*

AUDIENCE: Registrars, health officials, medical record librarians, medical students, nurses, and others concerned with completing birth certificates.

SUMMARY: Explains method of completion of the 1968 U.S. Standard Certificate of Live Birth, prepared by the National Center for Health Statistics, Public Health Service, in cooperation with State vital statistics officials. Introduces new items. Discusses each item, in order, emphasizing importance of completeness, accuracy, and legibility of entries. Gives examples of responses to each item and mentions uses of data secured (health services, demographic research).

AVAILABLE: Free short-term loan (filmstrip or slides, with record or tape) from the National Medical Audiovisual Center (Annex), Station K, Atlanta, Ga. 30324. Order by number, specifying record or tape. Purchase from DuArt Film Laboratories, Inc., 245 West 55th St., New York 10019. (Slides not presently available for purchase.)

One of Sixteen Million. *Order No. M-1634-X. Motion picture 16 mm., sound, color, 20 minutes, 1968. Produced by Design Center, Inc., Washington, D.C., for the Diabetes and Arthritis Control Program, Health Services and Mental Health Administration, Public Health Service.*

AUDIENCE: The general public, paramedical personnel, and public health officials.

SUMMARY: To inform the general public about the problems of arthritis—to assure that something can be done about them—and to encourage arthritis victims to seek medical assistance. Presents, in animated cartoon, the story of George Brown, family man, an unsuspecting victim of arthritis. The story, told with great humor, depicts common attitudes: nothing can be done about arthritis; the victim is doomed to become increasingly crippled. A physician comes to grips with these attitudes, warns against superstitious beliefs regarding arthritis cures, and explains in down-to-earth language what is known about arthritis—its prevalence, major forms (with emphasis on rheumatoid), symptoms, effects, and methods of treatment which can relieve pain and swelling and prevent crippling. The film ends on the optimistic note that the arthritic can lead a relatively normal life if he adopts a balanced program of diet, exercise, and other therapy carefully tailored to his individual needs.

AVAILABLE: Free short-term loan from National Medical Audiovisual Center (Annex), Station K, Atlanta, Ga. 30324. Purchase from the Arthritis Foundation, 1212 Avenue of the Americas, New York, N.Y. 10036.

Onchocerciasis in Ghana. *Order No. M-1543-X. Motion picture, 16 mm., color, sound, 31 minutes, 1966. Photographed and written by Dr. George J. Burton, scientist director (Medical Entomology), National Cancer Institute, Public Health Service.*

AUDIENCE: Medical and zoology students, physicians, nurses, laboratory and field technicians, public health workers, sanitarians, entomologists, parasitologists, workers in vectorborne diseases, and the general public in countries where onchocerciasis occurs.

SUMMARY: Emphasizes the entomological and parasitological aspects of the African vector of onchocerciasis. Most of the scenes and diseased persons were photographed in Ghana, where the disease is especially prevalent. Explains the life cycle of the vector blackfly; traces development of the parasite within the fly and human host; shows the

nature of the skin and nodules in onchocerciasis, explains their relationship to the parasite, and the association of the microfilariae with blindness. Demonstrates diagnosis and presents control aspects.

AVAILABLE: Free short-term loan from National Medical Audiovisual Center (Annex), Chamblee, Ga. 30005, Attention: Film Distribution. Purchase from DuArt Film Laboratories, Inc., 245 West 55th St., New York, N.Y. 10019.

Computer Analysis of Electrocardiograms. *Order No. M-1477-X. Motion picture, 16 mm., color, sound, 20 minutes, 1966. Cleared for television. Produced by Computer Instruments Corporation, Hempstead, N.Y., in cooperation with the National Center for Health Services Research and Development, Public Health Service.*

AUDIENCE: Physicians, hospitals, medical schools, technicians, hospital administrators, public health officials, and scientists.

SUMMARY: Demonstrates the use of computerized, automated systems to analyze and diagnose electrocardiograms and spiograms. Shows the data acquisition unit—a four-wheel cart that records the signals on tape and transmits them by telephone to the appropriate computer center. Within 15 seconds after the computer has recognized the waveforms of all the leads, it integrates the values, prints out an interpretation, and returns it to the physician or to the hospital.

AVAILABLE: Free short-term loan from the National Medical Audiovisual Center (Annex), Chamblee, Ga. 30005, Attention: Film Distribution. Purchase from DuArt Film Laboratories, Inc., 245 West 55th St., New York, N.Y. 10019.

Sample Mounting Techniques—Evaporation. *Order No. M-1342. Motion picture, 16 mm., color, sound, 7 minutes, 1966.*

SUMMARY: The final step in a radiological determination is the preparation or mounting of the sample for counting. This film demonstrates three methods for mounting solid samples by evaporation: pouring a slurry, pipeting a slurry, and pouring a dissolved solution.